

Anti-Human CD127 Purified

Catalog Number: 14-1278

Also known as: 'Interleukin-7 Receptor alpha, IL-7Ra

RUO: For Research Use Only. Not for use in diagnostic procedures.

Product Information

Contents: Anti-Human CD127 Purified
Catalog Number: 14-1278
Clone: eBioRDR5
Concentration: 0.5 mg/mL
Host/Isotype: Mouse IgG1, kappa



Formulation: aqueous buffer, 0.09% sodium azide, may contain carrier protein/stabilizer
Temperature Limitation: Store at 2-8°C.

Batch Code: Refer to vial

Use By: Refer to vial

Contains sodium azide

Description

The eBioRDR5 monoclonal antibody reacts with human CD127 (Interleukin-7 Receptor alpha). CD127 complexes with CD132, also known as the common gamma chain (gamma c), to form the multi-functional IL-7 receptor (IL-7R). CD127 is a type I glycoprotein with a molecular weight of 75-80 kDa and is expressed by immature B cells through the early pre-B stage, by thymocytes during several stages of their development, and on most mature T cells, with transient down-regulation upon activation. Binding of IL-7 results in signal transduction which occurs through several tyrosine kinase pathways including the Jak/STAT pathway. IL-7 is indispensable for the development of lymphocytes, and the control of homeostatic proliferation of T-cells in the periphery. In addition, IL-7R signaling is known to be involved in the regulation of T cell receptor (TCR) locus rearrangement in gamma delta T cells.

Interestingly, recently it has been demonstrated that CD127 expression is down-regulated on CD4+CD25+ regulatory T cells (T regs). While the co-expression of CD4 and CD25 has become widely used as an indicator of T regs, this method of identification may also include cells without suppressive activity. It has clearly been shown that CD4+CD25+ cells that have down-regulated the expression of CD127 are significantly more highly-enriched for the regulatory T population, as defined by expression of the T reg-specific transcription factor Foxp3 and the suppressive activity of these cells, *in vitro*.

Binding of the eBioRDR5 monoclonal antibody to PBMCs is blocked by pre-incubation of the cells with recombinant human IL-7 (cat. 14-8079).

Applications Reported

This eBioRDR5 antibody has been reported for use in flow cytometric analysis.

Applications Tested

This eBioRDR5 antibody has been tested by flow cytometric analysis of normal human peripheral blood cells. This can be used at less than or equal to 0.5 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10⁵ to 10⁸ cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

References

Demirkiran A, Bosma BM, Kok A, Baan CC, Metselaar HJ, Ijzermans JN, Tilanus HW, Kwekkeboom J, van der Laan LJ. Allosuppressive donor CD4+CD25+ regulatory T cells detach from the graft and circulate in recipients after liver transplantation. *J Immunol.* 2007 May 15;178(10):6066-72. (eBioRDR5, FC, PubMed)

Lim HW, Kim CH. Loss of IL-7 receptor alpha on CD4+ T cells defines terminally differentiated B cell-helping effector T cells in a B cell-rich lymphoid tissue. *J Immunol.* 2007 Dec 1;179(11):7448-56. (eBioRDR5, FC, IHC frozen, PubMed)

Liu W, Putnam AL, Xu-Yu Z, Szot GL, Lee MR, Zhu S, Gottlieb PA, Kapranov P, Gingeras TR, de St Groth BF, Clayberger C, Soper DM, Ziegler SF, Bluestone JA. CD127 expression inversely correlates with FoxP3 and suppressive function of human CD4+ T reg cells. *J Exp Med.* 2006 Jul 10;203(7):1701-11.

Seddiki N, Santner-Nanan B, Martinson J, Zaunders J, Sasson S, Landay A, Solomon M, Selby W, Alexander SI,

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Nanan R, Kelleher A, Fazekas de St Groth B. Expression of interleukin (IL)-2 and IL-7 receptors discriminates between human regulatory and activated T cells. *J Exp Med.* 2006 Jul 10;203(7):1693-700.

Corcoran AE, Smart FM, Cowling RJ, Crompton T, Owen MJ, Venkitaraman AR. The interleukin-7 receptor alpha chain transmits distinct signals for proliferation and differentiation during B lymphopoiesis. *EMBO J.* 1996 Apr 15;15(8):1924-32.

Goodwin RG, Friend D, Ziegler SF, Jerzy R, Falk BA, Gimpel S, Cosman D, Dower SK, March CJ, Namen AE, et al. Cloning of the human and murine interleukin-7 receptors: demonstration of a soluble form and homology to a new receptor superfamily. *Cell.* 1990 Mar 23;60(6):941-51.

Related Products

11-0452 Anti-Human/Mouse CD45R (B220) FITC (RA3-6B2)

11-4011 Anti-Mouse IgG FITC

12-4010 F(ab')₂ Anti-Mouse IgG PE (polyclonal)

14-4714 Mouse IgG1 K Isotype Control Purified (P3.6.2.8.1)